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SOME MEXICAN HEMIPTERA-HETEROPTERA NEW TO THE FAUNA OF THE UNITED STATES.

By H. G. BARBER,

ROSELLE PARK, N. J.

In the last few years I have obtained a number of Hemiptera, hitherto recorded only from Mexico or Central America, which have been taken in the extreme southern limits of New Mexico and Arizona. The addition of these to our fauna goes to swell the ever-increasing number of insects which are spreading northward from Mexico into the southern limits of the United States where the conditions are similar on either side of the border. The majority of the species which I desire here to record are a result of my collecting in the Huachuca Mountains, Arizona, in the summer of 1905.

***Brochymena hædula* Stål.**

I took six specimens of this species in the Huachuca Mts., Arizona. It is very closely related to *B. arborea* Say. I have some doubt concerning their separation as distinct species. Stål in his diagnosis in Enum. Hem., 2, p. 17, points out that *hædula* differs in having the three lobes of head equal, the fore tibiæ expanded near their apices and the base of all antennal joints paler. The specimens before me have the pronounced dilatation of the anterior tibiæ, and with the exception of the possibly more pronounced armature of spines on the pronotal angle I can find no other constant differential character. In these specimens the base of the fifth antennal joint is not pale.

***Euschistus spurculus* Stål.**

I have received a single specimen from the F. H. Snow Collection from San Bernardino Ranch, Cochise Co., Arizona, collected at an elevation of 3,750 ft. It agrees in every particular with Stål's description but is considerably paler than other specimens which I have from Durango, Mexico. Its occurrence within the United States was noted by Snow in the Trans. Kas. Acad. Sci., Vol. XX, Part I, 1906.

***Padæus irroratus* H. Schf.**

I have a single specimen collected by Dr. R. E. Kunze in the Huachuca Mts., Arizona, in 1899. I did not take this species in my collecting over the same territory in 1905. This is the specimen which Mr. Van Duzee determined for me and by mistake recorded from Florida in his "List of the Pentatomidæ of the United States."

***Cosmopepla binotata* Dist.**

A single specimen, collected by Dr. R. E. Kunze in the Huachuca Mts., Arizona.

***Chlorocoris* Spin.**

I can find no record of the occurrence of any member of this genus within the United States. I have four species to add. This genus is characterized by Stål as follows: Body more or less depressed, the lateral lobes of the head are longer than the median, the lateral angle of the prothorax acute and often spinose in character, ventral aspect of the abdomen provided usually with a more or less evident furrow, at least at base; apex of femora destitute of a spine.

***Chlorocoris subrugosus* Stål.**

Three specimens were collected by me in the Huachuca Mts., Arizona, in July. In this species the abdomen is not provided ventrally with a groove. The humeri are spinose.

***Chlorocoris hebetatus* Dist.**

I have two specimens of this species taken in the Huachuca Mts., Arizona. The humeral angle is almost a right angle and a pale yellowish median callosed line runs from the base of the head through the pronotum to the tip of the scutellum.

***Chlorocoris atrispinus* Stål.**

Several years ago I purchased from Mr. George Frank a specimen of this species labelled "New Mexico." In this species the head is long triangular and the lateral lobes rather acute. The humeral angles are drawn out into much more evident spines than in *subrugosus*.

***Chlorocoris rufopictus* Walk.**

This I found rather common in the Huachuca Mts., Arizona, and have been of the opinion that it is new, as it differs somewhat from

Walker's description and Distant's figure of this species. After more careful comparison with Distant's figure in the Biol. Cent. Am., I am convinced that the differences are mainly those of color, although the three lobes of the head are not of equal length as described by Walker for this species. Furthermore, there is no indication of an abbreviated pale ochraceous band on the front of the thorax as described by Walker nor a transverse sanguineous band posteriorly as depicted by Distant. Apical part of callosed ridge of scutellum and apex of scutellum itself and entire narrow lateral margin of connexivum ochraceous. Otherwise it agrees with Walker's description.

These four species may be differentiated in the following synoptic table.

Chlorocoris.

Ventral groove of abdomen more or less evident.

Head long triangular, with lateral lobes more acute.

Humeral angles drawn out into very acute spines; rostrum reaching the base of the third abdominal segment.....*atrispinus* Stål.

Head shorter, subconical, with apices of lateral lobes more or less evidently rounded; lateral margins of pronotum straight, with the humeral angle a right angle.

A distinct, median, slightly calloused, longitudinal, pale line running through entire length of pronotum and scutellum; lateral margins of pronotum serrated almost throughout; ventral groove of abdomen shallow, faintly outlined to base of sixth abdominal segment.

hebetatus Dist.

Apical one half of scutellum with a prominently elevated, pale, smooth ridge; lateral margins of pronotum distinctly serrated only about half way; ventral groove of abdomen much deeper and more evident to base of sixth abdominal segment.....*rufopictus* Walk.

Ventral groove of abdomen entirely absent. Head short and conical. Humeri spinose.*subrugosus* Stål.

Podisus marginiventris Stål.

This is not new to the United States, as Dr. Uhler from specimens collected in Colorado redescribed it under the name *gillettei* as pointed out by Mr. Van Duzee, who has himself taken it near Ft. Collins, Colorado. It is so rare that I cannot refrain from mentioning that two typical specimens were taken in the Huachuca Mts., Arizona.

Archimerus squalus H. Schf.

I took over fifty specimens of what I take to be this species in the Huachuca Mts., Arizona. It is rather broad, with the scutellum

yellow and the terminal segment of the antennæ sanguineous. The first segment of the antennæ is a trifle longer than the second.

Mamurius mopsus Stål.

Four specimens of this species were taken in the Huachuca Mts., Arizona.

Burtinus notatipennis Stål.

A single specimen was obtained in the Huachuca Mts., Arizona. After a very careful comparison of this specimen with Stål's description of *notatipennis* and Distant's *femoralis* I am fairly certain that the latter is a synonym of Stål's species. Stål, evidently through oversight, neglected to mention the series of ventral black spots on the abdomen, the four pronounced long, black spines of the posterior femora which are mentioned by Distant in his description. The single specimen before me has only a slight indication of a pale spot behind the middle of the corium and lacks the darker coloring beneath the head but in this is probably subject to variation. In all other respects this specimen agrees with the two descriptions. This species has dorsally a very close resemblance to *Megalotomus quinque-spinosus* Say.

Harmostes subrufus Dist.

I collected eight specimens of this species in the Huachuca Mts., Arizona. The basal segment of the antennæ extends about one third of its length beyond the apex of the head and the enlarged fourth joint is a trifle longer than the basal joint; the humeri are broadly rounded; the areas between the veins punctate and mottled with reddish brown; narrow reflexed costal margin of corium immaculate.

Xenogenus extensum Dist.

Two specimens collected in the Huachuca Mts., Arizona. They have the appearance of a long, narrow *Harmostes reflecus* Say. The fourth segment of the antennæ is not much thickened and only slightly shorter than the third segment; the antenniferous tubercles are not produced nor spined; the ocelli are elevated; the anterior angle of the pronotum is not produced in a spine; the apical half of the posterior femora armed with some twenty-five sharp spines.

Stenomacra marginella H. Schf.

This species was very common in a garden in the Huachuca Mts., Arizona, where I found it feeding on *Asparagus*. The fore tibiæ

are usually armed with three spines near the apex. Distant in the *Biologia Cent. Am.* mentions the color variations of the legs. In the series of forty specimens before me the apical half of the hind femora, commonly the apical part of the middle femora and rarely the apices of the fore femora are blackish.

Arhapse cicindeloides Walk.

I found this species rather common in the Huachuca Mts., Arizona, running about on the ground among the dead leaves. It is about the size of and very closely resembles *A. carolina* H. Schf. The anterior lobe of the pronotum is whitish tomentose and the white markings on the wing covers are similar in the two species. But in *cicindeloides* the head, seen from above, is larger, more globose and impunctate; in *Carolina* the head is furnished with large, rather scattered punctures, and the membrane of the wing covers is somewhat more developed.

Leptoypha brevicornis Champ.

Common in the Huachuca Mts., Arizona. The differences between this species and our *L. mutica* are pointed out by Champion.

Dichocysta pictipes Champ.

In this species, which was obtained in the Huachuca Mts., Arizona, the pronotum is furnished on either side with a very large bulbi-form process. It has otherwise much the appearance of one of the *Teleonemias*.

Teleonema variegata Champ.

Four specimens of this characteristic species were taken with the preceding.

Mr. O. Heidemann kindly determined these three species of *Tingitidæ* for me.

Homalocoris guttatus Walk.

Dr. Henry Skinner obtained a single specimen of this species in the Huachuca Mts., Arizona. This specimen differs from Champion's figure in the *Biologia Cent. Amer.* in having the red spots on the posterior lobe of the pronotum more elongate and oblique.

Apiomerus longispinus Champ.

This species was very common in the Huachuca Mts., Arizona. It is black with a pale spot at each lateral incisure of the abdominal

segments. Its characters are sufficiently indicated by Champion.

***Milyas spinicollis* Champ.**

This was collected by Professor E. B. Wilson, of Columbia University, in the Grand Cañon of the Colorado along Bright Angel Trail.

***Milyas inermis* Champ.**

Collected by Dr. Henry Skinner and by Mr. C. Schaeffer, of the Brooklyn Museum, in the Huachuca Mts., Arizona, to the former of whom I am indebted for a specimen. This and the preceding species agree in every particular with Champion's descriptions and figures in the *Biologia Centrali-Americana*.

NOTES ON BREEDING HEMIPTERA.

BY CHRIS. E. OLSEN,

MASPETH, LONG ISLAND, N. Y.

1. *Cosmopepla carnifex* Fabr.

During the summer I found a number of Hemipterous nymphs of this species in their last instar feeding on moth mullein (*Verbascum blattaria*). In a few days they matured and proved to be the common *Cosmopepla carnifex* Fabr. The bred specimens and others freshly collected were placed on a moth mullein in a pot covered with a wire screen. The first egg mass was laid on the screen. The youngsters were not able to locate the food plant and soon died. The plant itself did not thrive indoors, so thereafter I supplied freshly picked leaves each day, confining the insects in a pint jar covered with muslin. Eggs were deposited in very irregular masses, 4 to 15 per mass, on any part of the plant which the mothers chose on the upper or under side of the leaf, stem, seed pod or flower bud. In all I secured 69 eggs, but these were deposited by more than one mother. August 20 a batch of eggs was laid on the stem evenly in almost straight lines, two by two. This was rather unusual. They were light apple green, translucent, resembling in nature white grapes, but less oval, more cylindrical, rounding quickly at the ends. The color gradually turned yellowish as the embryo developed and all hatched